

IN THE CLAIMS:

1 1. (cancelled)

1 2. (previously amended) The method of claim 9 wherein the medium is a fluid
2 medium and the microorganism is a bacterium.

1 3. (cancelled)

1 4. (cancelled)

1 5. (cancelled)

1 6. (cancelled)

1 7. (cancelled)

1 8. (cancelled)

1 9. (amended) A method for detecting the presence of a specific microorganism in a
2 sample, the microorganism having a characteristic resonance enhanced Raman backscattered
3 energy spectrum produced by irradiating nucleic acids in the microorganism at a wavelength
4 between 242-257 nm, the method comprising:

5 (a) contacting the sample with a medium comprising solid phase immobilized
6 antibodies which specifically bind to a characteristic cell surface antigen on the microorganism
7 to form an antigen-antibody complex, thereby immobilizing the microorganism on the solid
8 phase;

9 (b) irradiating the solid phase of step (a) with a laser light of 242-257 nm to

10 produce a resonance enhanced Raman backscattered energy; and
11 (c) comparing the induced spectrum of step (b) with said characteristic
12 spectrum to detect the presence of the microorganism in the sample, the method detecting the
13 presence of the microorganism, when at least a 200:1 ratio of solid phase immobilized antibodies
14 in the medium to microorganism in the sample exists.

1 10. (previously amended) The method of claim 9 wherein the solid phase of step (a)
2 is washed to remove unbound sample and medium before the irradiating step (b).

1 11. (amended) The method of claim 9 wherein the characteristic spectrum is at
2 149885cm⁻¹

1 12. (cancelled)

1 13. (previously amended) The method of claim 2 wherein the bacterium is *E.coli* and
2 the antibodies are anti-*E.coli*.

1 14. (cancelled)

1 15. (cancelled)

1 16. (cancelled)